Live Training Standards Update

Mr. Brian Kemper
APM TRADE Chief Engineer

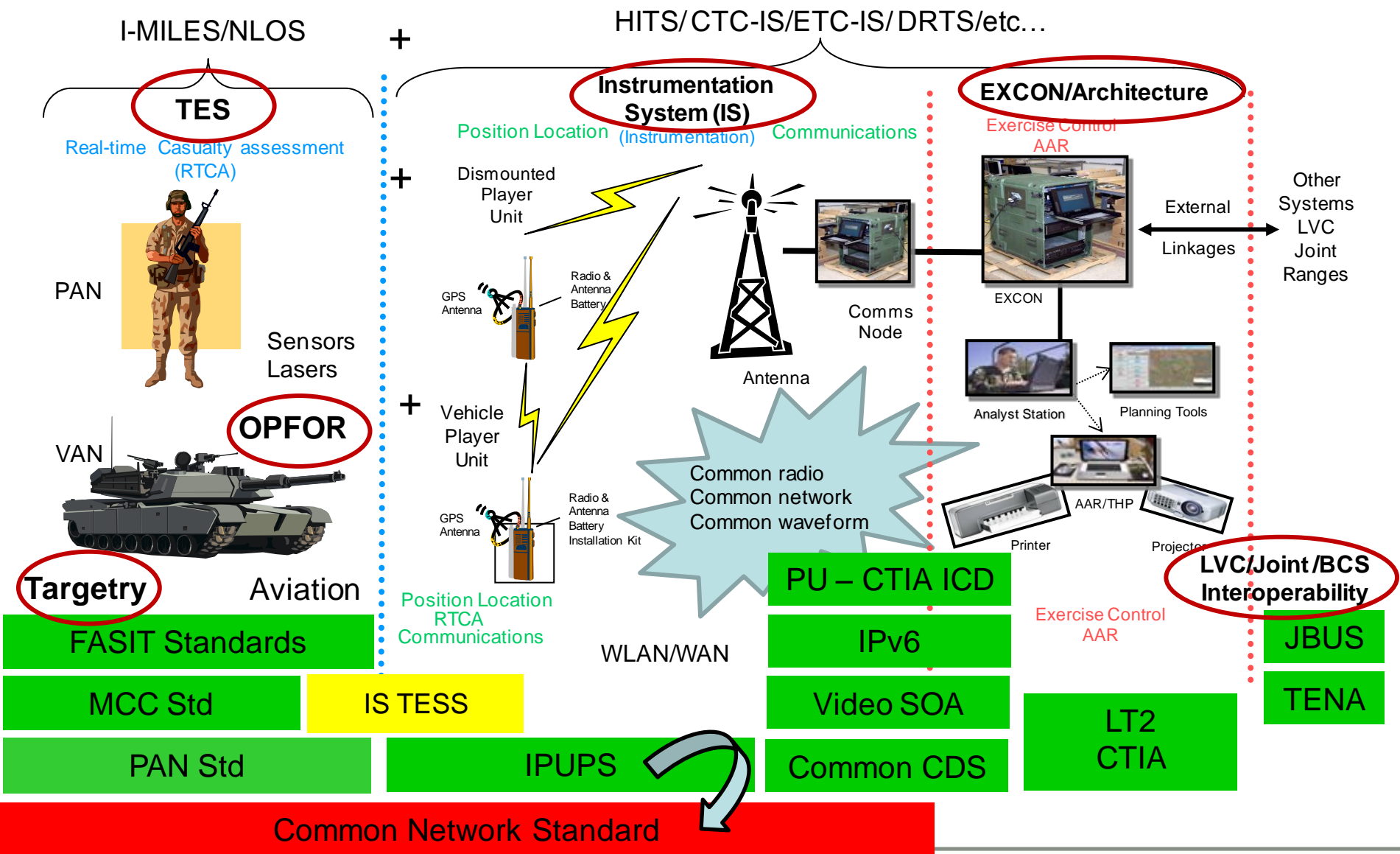30 November 2010

Agenda

- ➢ Intent

  - ➢ Live Test & Training Paradigm

  - ➢ Benefit of Standards

  - ➢ LT2 Processes & Test Bed

- ➢ Status

  - ➢ Current Standards in Work

  - ➢ Future Standards

- ➢ Feedback Session

- ➢ Survey

Live Test & Training Paradigm

I-MILES/NLOS   +   HITS/ CTC-IS/ETC-IS/ DRTS/etc...

TES

Real-time Casualty assessment
(RTCA)

PAN

Sensors
Lasers

OPFOR

VAN

Targetry   Aviation

**Instrumentation
System (IS)**

Position Location (Instrumentation) Communications

Dismounted
Player
Unit

GPS
Antenna

Radio &
Antenna
Battery

Vehicle
Player
Unit

GPS
Antenna

Radio &
Antenna
Battery
Installation Kit

Antenna

Comms
Node

Common radio
Common network
Common waveform

Position Location
RTCA
Communications

WLAN/WAN

EXCON/Architecture

Exercise Control
AAR

External
Linkages

Other
Systems
LVC
Joint
Ranges

EXCON

Analyst Station   Planning Tools

AAR/THP

Printer   Projector

Exercise Control
AAR

**LVC/Joint /BCS
Interoperability**

FASIT Standards		PU – CTIA ICD	JBUS
MCC Std	IS TESS	IPv6	TENA
PAN Std		Video SOA	LT2 CTIA
	IPUPS	Common CDS	

Common Network Standard

Benefit of Standards

Commonality
- Reduces Developmental Cost
- Promote Reuse

Modularity
- Reduces lifecycle costs
- Improves Reliability, Availability and Maintainability (RAM)

Non-Propriety
- Greater vendor depth
- Maximize industry involvement in:
  - Tech Insertion
  - Developing product-line
  - Providing Training Capabilities

Interoperability
- Live/Virtual/Constructive - -Increases training opportunities and enhances each domain.
- Joint Service --Train as we fight.
- Test and Training -- Reduce costs.

Extensibility
- Enables modernization and embedded training

Accreditation
- Improve flexibility in addressing IA/system accreditation

Live Training Standards Stakeholders
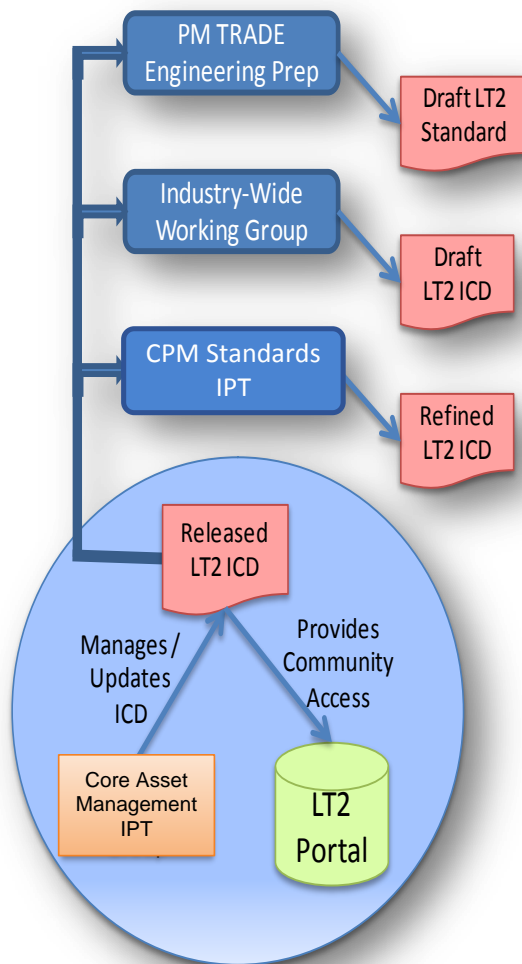
INDUSTRY PARTNERS

Government and industry work together to establish Live Training Standards to promote systematic reuse of software and interoperability solutions for the LT2 product line
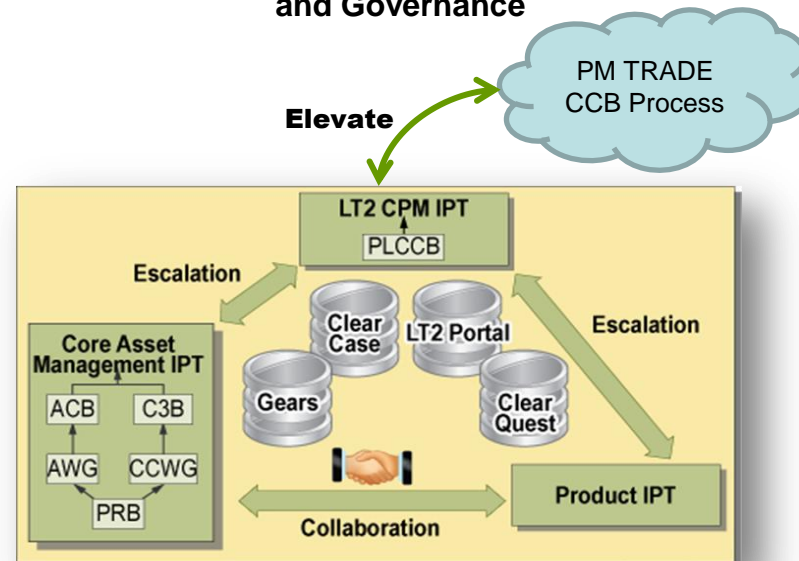
LT2 Processes & Test Bed

LT2 Standards Life-Cycle

- PM TRADE Engineering Prep → Draft LT2 Standard
- Industry-Wide Working Group → Draft LT2 ICD
- CPM Standards IPT → Refined LT2 ICD
- Released LT2 ICD
  - Manages / Updates ICD
  - Provides Community Access
  - Core Asset Management IPT
  - LT2 Portal

LT2 Core Asset Configuration Management and Governance

PM TRADE CCB Process

Elevate

LT2 CPM IPT — PLCCB

Escalation

Core Asset Management IPT
- ACB
- C3B
- AWG
- CCWG
- PRB

Clear Case
LT2 Portal
Gears
Clear Quest

Escalation

Product IPT

Collaboration

Live Training Test Bed

- ➤ Capable of supporting Instrumentation/TESS Interface Standard requirements, PAN Standard requirements, and future live training standards requirements.

- ➤ Co-located Test Bed in the governments Integrated Development Environment (IDE)

- ➤ Will be used by Government to validate product compliance against the Standards and ICDs. Also can be used by Industry to test compliance of new products.
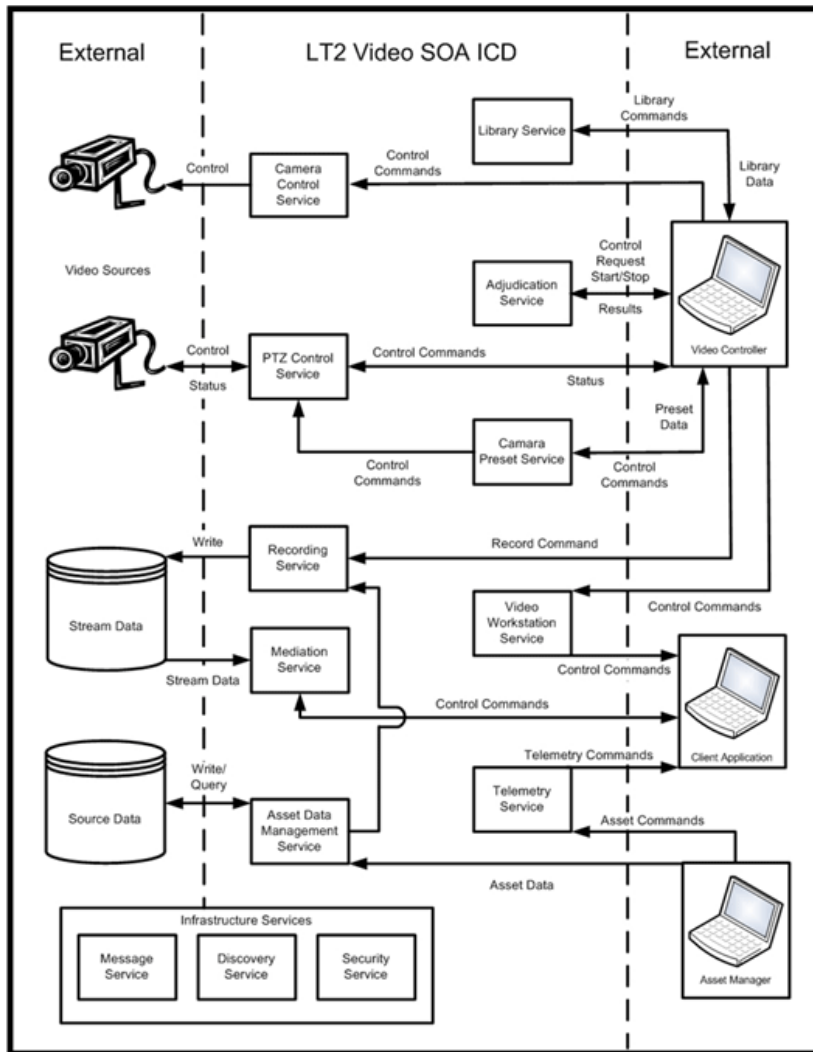
Status

Live Training Standards

- Video Service-Oriented Architecture
- Player Area Network Standard
- IS TESS Standard
- MILES Comm Code Standard
- FASIT Standard
- Common Player Gateway
- LT2 GUI Standard
- Other Standards
- Future Standards
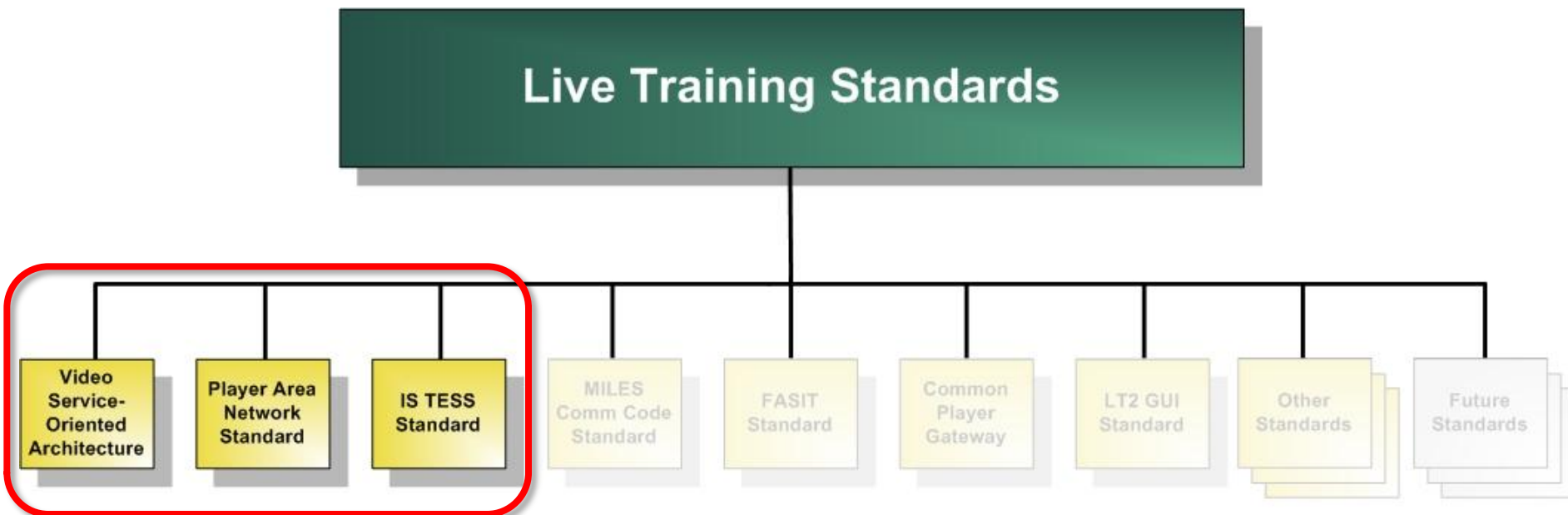
➢ Three new standards in development

Video Service-oriented Architecture (VSOA)

Description

VSOA is a SOA concept and contract specification used to create a non-proprietary, interoperable standard to allow various service consumers (TOC2, TAFF workstations, etc.) to communicate with any video control system regardless of the video vendor.

Status

- Industry Workshop – Jan 2010
- Version 3 ICD Industry Review – Oct 2010
- Publish Standard – Dec 2010

Player Area Network (PAN)
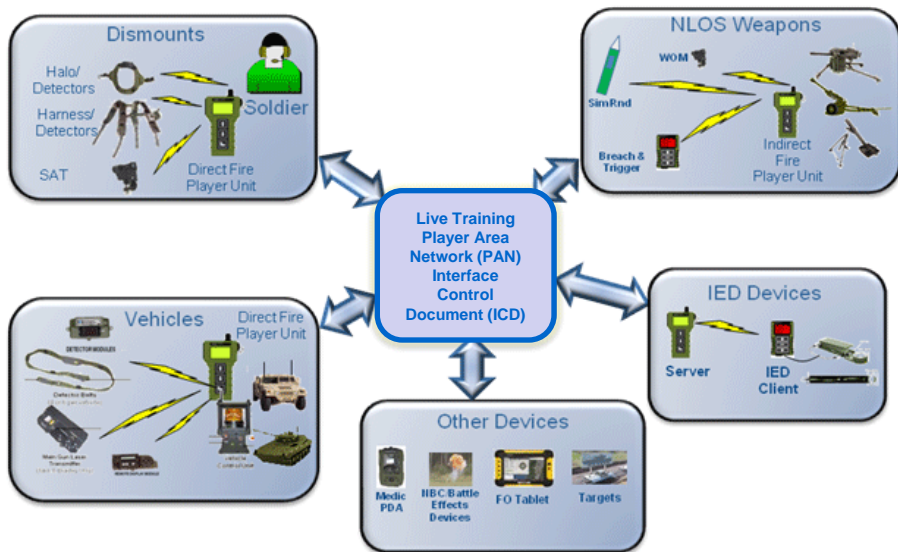
PAN Standard Description

- Specifies the physical and functional characteristics of a short- range, low-power, RF interface.
- Defined message set.
- Communications between player/platform TESS/Instrumentation and nearby, associated devices.
- Enable integration with other Army Training Aids, Devices, Simulators, and Simulations (TADSS).

Benefit
- Ensure interoperability across products, i.e. vendor A's SAT will work with vendor B's IWS
- Allow programs to purchase components rather than entire systems
  - SATs
  - Detectors
  - Targets
  - Etc
- Standard managed by PM TRADE
- Defined CCB process for updating

Status
- Industry Workshop Conducted - May 10
- Draft Std sent to industry for comments - Oct 10
- Comments incorporated into document
- Developing prototype hardware to test Std implementation on multiple platforms – Jan 11
- Final Std published – Feb 11
- Build testbed to validate future products against the Std – Feb 11

# Instrumentation-Tactical Engagement Simulation System (IS TESS)

Description

- Consolidate the existing Interface Control Documents that are currently being used to detail the Instrumentation - TESS interface into a single interface standard.
- Encompasses and drives all future PM TRADE Products with regards to Instrumentation and TESS systems.

Status

- Plan to consolidate existing TESS / Inst. ICDs into a single document – Sept 10
- Initial draft for Government review – Nov 10
- Industry review – Nov 10
- Final ICD approved – Dec 10
- Build testbed to validate future products against the ICD – Feb 11
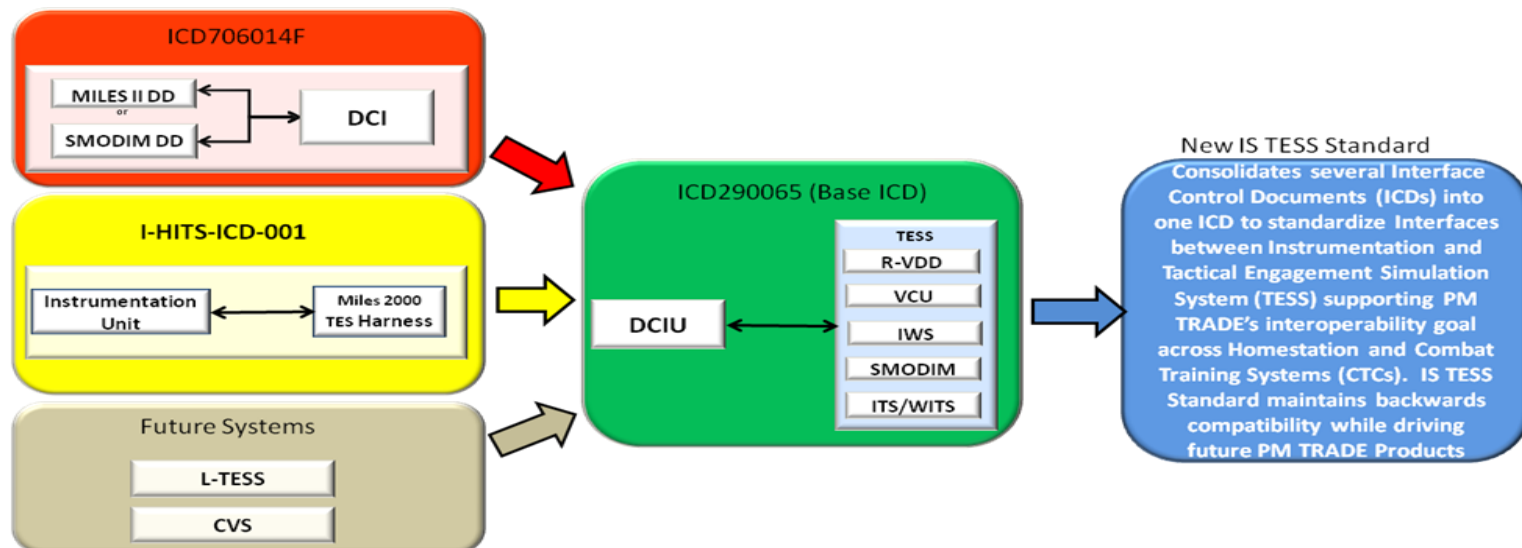
Standards Applicability
PM TRADE Pending/Future Competitions

Applicable Standards

		Video SOA	PAN Standard	IS TESS Standard	MCC	FASIT Standard	LT2 GUI Standard	Common Player Unit Gateway
PM CTIS	HITS EXCON	●					●	●
	CTC-IS Mod	●		●			●	●
	IRS			●				●
PM DT	DRTS	●				●	●	
	CARTS (misc)					●	●	
PM LTS	SLM		●		●			
	CVTESS		●	●	●			
	IWS		●	●	●			
	ITAS-TESS 2010				●			

REMINDER: "TSIS Update to Industry"

HOST: COL Mike Flanagan

TIME: 30 Nov from 1530 - 1630

LOCATION: PEO STRI Booth #501

Future Standards

Standardization of What?

- **Capabilities**
  - **Instrumentation System (IS)**
  - **TESS**
  - **Targetry**
- **Architecture**
  - **Databases / Data Models**
  - **Services**
  - **Interfaces**
- **SW Components**
  - **C4I Interface**
  - **2D Map**
  - **Tools**
- **Processes**
  - **LT2 ConOps**
  - **LT2 Portal**
  - **PL Acquisition**
- **Requirements**
  - **Specifications**
  - **Performance Parameters**
- **Design**
  - **CBT**
  - **GUI**

FY11

- IS TESS Standard
- PAN Standard
- Networks/Radio Comms Standard
  - Peer-to-Peer Network
  - Data Collection Network
  - JTRS Radios
  - SCA Compliant Radios
  - Waveforms
  - Spectrum Allocation
  - encryption
- RTCA Standard(s)
- LVC
  - Interface (JBUS)
  - Terrain DB format

FY12 + Beyond

- Embedded Training Standard
- Computer-Based Training
- Training Records
- Aviation Standards
- Power Standard

REMINDER: "Live Training Campaign Plan"

HOST: COL Mike Flanagan

TIME: 2 Dec from 1300 -1500

LOCATION: Room S330AB

PM TRADE

Feedback Session

- Future Standards Discussion
  - ➢ Common RTCA approach
  - ➢ Common Government owned network

- Forums/Working Groups Feedback
  - ➢ Format
  - ➢ Collaboration

- Test Bed(s)

Feedback Session

- PM TRADE and PM ITTS are considering a <u>common RTCA approach</u>
  - Replacement for the current MCC Standard
    - Less affected by environment and weather
    - More data throughput
    - Potentially leverage tactical systems
  - Provided to Industry for competitions
  - Required to be proposed back to Government as part of overall technical solution

- Discussion #1 – What would be some approaches for the government to determine the best choices for a COTS RTCA capability? (TRE, SBIR, R&D contract)

- Discussion #2 – Which technologies are the most promising for RTCA / TESS? (new laser, RF (peer to peer) & WOMs, etc)

- Discussion #3 – What are the design/cost impacts to Industry to go to a new RTCA vs. MILES?

- Discussion #4 – How long will it take Industry to have compliant products to propose back to the Government?

Feedback Session

- PM TRADE and PM ITTS are considering a common <u>Government owned network</u>
  - Maintained by Government on the LT2 Portal
  - Provided to Industry for competitions
  - Required to be proposed back to Government as part of overall technical solution

- Discussion #1 – What are the impacts to Industry of Government owned and provided network for future competitions?

- Discussion #2 – What lead time would be required for Industry to get this common network onto their radio systems? (3 months, 6 months, etc)

- Discussion #3 – What information, data, models, software code would Industry need to be able to implement a network solution?

- Discussion #4 – How should the Government maintain the software baseline?

- Discussion #5 – What are industry/company considerations when deciding to invest IRAD in this approach?

- Discussion #6 – How would this approach effect your business models?

Survey

➢ Survey intended to get more detailed feedback than possible in this short session

➢Return to:

- Target Modernization Booth, #501

- "Live Training Campaign Plan", 2 Dec 1300-1500 Room S330AB

➢COL Mike Flanagan, PM TRADE, is highly interested in industry feedback regarding the Live Training Standards and what we can do to continuously improve our process.

REMINDER: "Live Training Campaign Plan"

HOST: COL Mike Flanagan

TIME: 2 Dec from 1300 -1500

LOCATION: Room S330AB

Backups